

REMARKS

I. Amendments

Claims 1, 4, 5, 6-8, 10, 12-17, 23, 25, 26, 29, 30, 35 and 37 have also been modified to conform them to U.S. patent practice. These changes introduce no new matter into the specification.

The specification has also been amended to reflect the priority application.

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached pages are captioned "Version with Markings to Show Changes Made".

No change in inventorship is necessitated by the amendments.

II. Conclusion

Consideration of the claims as amended is solicited. Should the Examiner believe that a conference with Applicants' Attorney would advance prosecution of this application, the Examiner is respectfully requested to call Applicants' Attorney.

Respectfully submitted,

Dated: December 12, 2001

(847) 383-3391  
(847) 383-3372

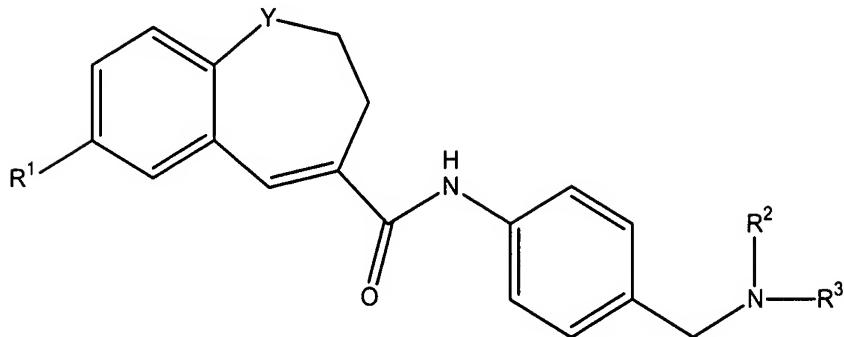
*Elaine M. Ramesh*  
Elaine M. Ramesh, Ph.D., Reg. No. 43,032  
Mark Chao, Ph.D., Reg. No. 37,293

Attorney for Applicants  
Customer No. 23,115

Takeda Pharmaceuticals North America, Inc.  
Intellectual Property Department  
Suite 500, 475 Half Day Road  
Lincolnshire, IL 6069 USA

Version with Markings to Show Changes Made

1. A compound of the formula (I):



PROPRIETARY OR CONFIDENTIAL

wherein R¹ is a 5- to 6- membered aromatic ring which has a group of the formula: R-Z¹-X-Z²- wherein R is a hydrogen atom or [an optionally substituted] a substituted or unsubstituted hydrocarbon group, X is [an optionally substituted ] a substituted or unsubstituted alkylene chain, and Z¹ and Z² are respectively hetero-atoms, and which may have a further substituent, the group R may bind to the 5- to 6- membered aromatic ring to form a ring, Y is [an optionally substituted] a substituted or unsubstituted imino group, R² and R³ are respectively [an optionally substituted] a substituted or unsubstituted aliphatic hydrocarbon group or [an optionally substituted] a substituted or unsubstituted alicyclic heterocyclic group; or a salt thereof.

4. The compound according to claim 1, wherein the 5- to 6-membered aromatic ring is benzene[;].

5. The compound according to claim 1, wherein R is [an optionally halogenated] halogenated or unhalogenated lower alkyl group.

6. The compound according to claim 1, wherein X is -(CH<sub>2</sub>)<sub>n</sub>- [(] wherein n is an integer of 1-

4D].

7. The compound according to claim 1, wherein  $Z^1$  and  $Z^2$  are respectively  $-O-$ ,  $-S(O)_m-$  [(] wherein  $m$  is an integer of 0-2[)] or  $-N(R^4)-$  [(] wherein  $R^4$  is a hydrogen atom or [an optionally substituted] a substituted or unsubstituted lower alkyl group[)].

8. The compound according to claim 1, wherein  $Z^1$  is  $-O-$  or  $-S(O)_m-$  [(] wherein  $m$  is an integer of 0-2[)].

10. The compound according to claim 1, wherein  $Z^2$  is  $-O-$  or  $-N(R^4)-$  [(] wherein  $R^4$  is a hydrogen atom or [an optionally substituted] a substituted or unsubstituted lower alkyl group[)].

12. The compound according to claim 1, wherein  $Y$  is  $-N(R^5)-$  [(] wherein  $R^5$  is a hydrogen atom, [an optionally substituted] a substituted or unsubstituted hydrocarbon group or [an optionally substituted] a substituted or unsubstituted acyl group[)].

13. The compound according to claim 12, wherein [(]  $R^5$  [)] is  $C_{1-4}$  alkyl, formyl or  $C_{2-5}$  alkanoyl.

14. The compound according to claim 12, wherein  $R^5$  is a group represented by the formula  $-(CH_2)_k-R^6[:]$ ; wherein  $k$  is 0 or 1, and  $R^6$  is [an optionally substituted] a substituted or unsubstituted 5- to 6- membered monocyclic aromatic group.

15. The compound according to claim 1, wherein  $R^2$  is [an optionally substituted] a substituted or unsubstituted straight chain hydrocarbon group.

16. The compound according to claim 1, wherein  $R^2$  is [an optionally substituted] a substituted or unsubstituted lower alkyl group.

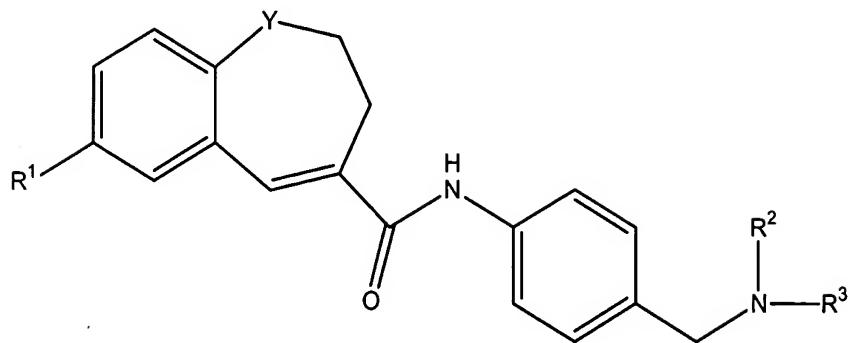
17. The compound according to claim 1, wherein R<sup>3</sup> is [an optionally substituted] a substituted or unsubstituted alicyclic hydrocarbon group or [an optionally substituted] a substituted or unsubstituted alicyclic heterocyclic group.

23. A compound selected from the [class] **group** consisting of 7-(4-[ethoxyethoxophenyl]  
ethoxyethoxyphenyl)-1-ethyl-N-[4-[[N-methyl-N-(tetrahydropyran-4-yl)amino]methyl]phenyl]-2,3-dihydro-1-benzazepine-4- [carbiboxamide] carboxamide, 1-ethyl-7-(4-propoxyethoxyphenyl)-N-[4-[[N-methyl-N-(tetrahydropyran-4-yl)amino]methyl]phenyl]-2,3-dihydro-1-benzazepine-4-carboxamide, 7-(4-butoxyethoxyphenyl)-1-ethyl-N-[4-[[N-methyl-N-(tetrahydropyran-4-yl)amino]methyl]phenyl]-2,3-dihydro-1-benzazepine-4-carboxamide, 7-(4-ethoxyethoxyphenyl)-1-formyl-N-[4-[[N-methyl-N-(tetrahydropyran-4-yl)amino]methyl]phenyl]-2,3-dihydro-1-benzazepine-4-carboxamide, 1-formyl-7-(4-propoxyethoxyphenyl)-N-[4-[[N-methyl-N-(tetrahydropyran-4-yl)amino]methyl]phenyl]-2,3-dihydro-1-benzazepine-4-carboxamide, 7-(4-butoxyethoxyphenyl)-1-formyl-N-[4-[[N-methyl-N-(tetrahydropyran-4-yl)amino]methyl]phenyl]-2,3-dihydro-1-benzazepine-4-carboxamide, 7-(4-butoxyethoxyphenyl)-N-[4-[[N-methyl-N-(tetrahydropyran-5-yl)amino]methyl]phenyl]-7-(4-propoxyethoxyphenyl)-1-propyl-2,3-dihydro-1-benzazepine-4-carboxamide, N-[4-[[N-methyl-N-(tetrahydropyran-5-yl)amino]methyl]phenyl]-7-(4-propoxyethoxyphenyl)-1-propyl-2,3-dihydro-1-benzazepine-4-carboxamide, 1-benzyl-7-(4-butoxyethoxyphenyl)-N-[4-[[N-methyl-N-(tetrahydropyran-4-yl)amino]methyl]phenyl]-2,3-dihydro-1-benzazepine-4-carboxamide, 7-(4-butoxyethoxyphenyl)-1-cyclopropylmethyl-N-[4-[[N-methyl-N-(tetrahydropyran-4-yl)amino]methyl]phenyl]-2,3-dihydro-1-benzazepine-4-carboxamide, 7-(4-butoxyethoxyphenyl)-N-[4-[[N-methyl-N-(tetrahydropyran-4-yl)amino]methyl]phenyl]-1-phenyl-2,3-dihydro-1-benzazepine-4-carboxamide, 7-(4-butoxyethoxyphenyl)-1-(3,4-

100183221201

methyleneoxy)phenyl-N-[4-[[N-methyl-N-(tetrahydropyran-4-yl)amino]methyl]phenyl]-2,3-dihydro-1-benzazepine-4-carboxamide, 7-(4-butoxyethoxyphenyl)-1-(2-methyloxazol-5-yl)-N-[4-[[N-methyl-N-(tetrahydropyran-4-yl)amino]methyl]phenyl]-2,3-dihydro-1-benzazepine-4-carboxamide, 1-allyl-7-(4-butoxyethoxyphenyl)-N-[4-[[N-methyl-N-(tetrahydropyran-4-yl)amino]methyl]phenyl]-2,3-dihydro-1-benzazepine-4-carboxamide, 7-(4-butoxyethoxyphenyl)-N-[4-[[N-methyl-N-(tetrahydropyran-4-yl)amino]methyl]phenyl]-1-(3-thienyl)methyl-2,3-dihydro-1-benzazepine-4-carboxamide, 7-(4-butoxyethoxyphenyl)-N-[4-[[N-methyl-N-(tetrahydropyran-4-yl)amino]methyl]phenyl]-1-(thiazol-2-yl)methyl-2,3-dihydro-1-benzazepine-4-carboxamide, 7-(4-butoxyethoxyphenyl)-1-(1-methylpyrazol-4-yl)methyl-N-[4-[[N-methyl-N-(tetrahydropyran-4-yl)amino]methyl]phenyl]-2,3-dihydro-1-benzazepine-4-carboxamide, 7-(4-butoxyethoxyphenyl)-1-(3-methylisothiazol-4-yl)methyl-N-[4-[[N-methyl-N-(tetrahydropyran-5-yl)amino]methyl]phenyl]-2,3-dihydro-1-benzazepine-4-carboxamide, 7-(4-butoxyethoxyphenyl)-1-(1-ethylpyrazol-4-yl)methyl-N-[4-[[N-methyl-N-(tetrahydropyran-4-yl)amino]methyl]phenyl]-2,3-dihydro-1-benzazepine-4-carboxamide, 7-(4-butoxyethoxyphenyl)-1-isobutyl-N-[4-[[N-methyl-N-(tetrahydropyran-5-yl)amino]methyl]phenyl]-2,3-dihydro-1-benzazepine-4-carboxamide, 1-isobutyl-N-[4-[[N-methyl-N-(tetrahydropyran-5-yl)amino]methyl]phenyl]-7-(4-propoxyethoxyphenyl)-2,3-dihydro-1-benzazepine-4-carboxamide, 7-(4-butoxyethoxyphenyl)-N-[4-[[N-methyl-N-(tetrahydropyran-4-yl)amino]methyl]phenyl]-1-(thiazol-5-yl)methyl-2,3-dihydro-1-benzazepine-4-carboxamide, 7-(4-butoxyethoxyphenyl)-N-[4-[[N-methyl-N-(tetrahydropyran-4-yl)amino]methyl]phenyl]-1-(1-methyltetrazol-5-yl)methyl-2,3-dihydro-1-benzazepine-4-carboxamide, **[and]** 7-(4-butoxyethoxyphenyl)-N-[4-[[N-methyl-N-(tetrahydropyran-4-yl)amino]methyl]phenyl]-1-(2-methyltetrazol-5-yl)methyl-2,3-dihydro-1-benzazepine-4-carboxamide**[, or salt]** **and** salts thereof.

25. A method for producing a compound of the formula I:

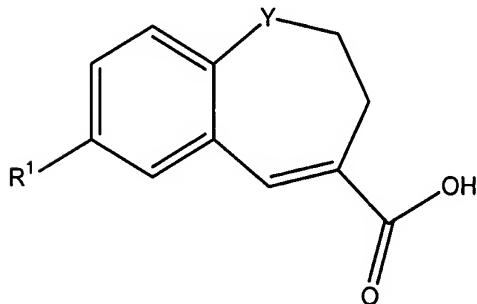


[wherein each symbol is as defined in claim 1,]

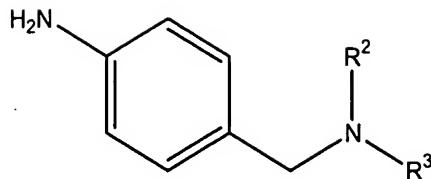
wherein R<sup>1</sup> is a 5- to 6- membered aromatic ring which has a group of the formula: R-Z<sup>1</sup>-X-Z<sup>2</sup>- wherein R is a hydrogen atom or a substituted or unsubstituted hydrocarbon group, X is a substituted or unsubstituted alkylene chain, and Z<sup>1</sup> and Z<sup>2</sup> are respectively heteroatoms, and which may have a further substituent, the group R may bind to the 5- to 6-membered aromatic ring to form a ring, Y is a substituted or unsubstituted imino group, R<sup>2</sup> and R<sup>3</sup> are respectively a substituted or unsubstituted aliphatic hydrocarbon group or a substituted or unsubstituted alicyclic heterocyclic group;

or a salt thereof, which comprises subjecting a

compound of the formula:



wherein [each symbol is as defined in claim 1,] R<sup>1</sup> and Y are as defined above, a salt or reactive derivative thereof to a condensation reaction with a compound of the formula:



wherein [each symbol is as defined in claim 1] R<sup>2</sup> and R<sup>3</sup> are as defined above, or a salt thereof;

and then optionally isolating said compound of formula I or a salt thereof.

26. A pharmaceutical composition which comprises the compound according to claim 1 or a salt thereof and a pharmaceutically acceptable carrier, excipient, binder or diluent.

29. The composition according to claim 26, which is for the treatment [or prevention] of infectious [disease] diseases of HIV.

30. The composition according to claim 26, which for the treatment [or prevention] of AIDS.

35. A method for treating infectious diseases of HIV comprising administering a pharmaceutically effective amount of a compound of [Use of the compound according to] claim 1 or a salt thereof in combination with a protease inhibitor, [and/or] a reverse transcriptase inhibitor or a combination thereof to a mammal in need thereof [for the treatment or prevention of infectious disease of HIV].

37. [Use of a compound according to] A method for treating AIDS comprising administering a pharmaceutically effective amount of a compound of claim 1 or a salt thereof to a mammal in need thereof [in preparation of a medicament for antagonizing a CC chemokine receptor].

EPO EPO EPO EPO EPO EPO EPO EPO